Cleanup Activities Completed To Date

To date, EPA and NH DES have invested about $19 million in investigation and interim cleanup work at the site. Actions completed to date include:

Tank / Drum Removal: Approximately 1.1 million gallons of waste oil, sludge and water were removed from the over 100 above ground storage tanks and 800 drums formerly located on the property. The tanks themselves were the cleaned, dismantled and removed. This work was completed in November 1997.

Remedial Investigation: An investigation of the nature and extent of contamination in all media at the site, and an evaluation of the potential human health and environmental risks associated with this contamination was undertaken at the site. A Remedial Investigation Report was released in February 2001.

Feasibility Study: A complete Feasibility Study was undertaken to evaluate various technologies and alternatives to fully address the contamination and associated potential risks at the site. A Feasibility Study Report was released in January 2002.

Floating Oil Removal : A 120 foot long interceptor trench was installed to capture oil previously seeping into nearby Kelley Brook. In addition,143 vacuum extraction wells were installed across the site to remove mobile floating oil from the groundwater table. Over 80,000 gallons of oil have been removed as of 2004. The interceptor trench was installed in November 1997. The vacuum extraction system was installed in February 2000.

Schedule of Future Cleanup Activities

- EPA plans to continue operating the interceptor trench and vacuum extraction systems. This system is expected to continue possibly into 2005. This system must be dismantled prior to start of the soil cleanup.
- Treatibility studies will be performed to gather data necessary to design the final cleanup. These studies are expected to take several months to complete. The full design process will take a year or more to complete.
- Following the dismantling of the mobile oil recovery system, the shallow soil, soil piles, landfill and sediment component of the cleanup will take about 1 to 2 years to complete.
- Once installed, the vacuum extraction system is expected to operate for about 4 to 5 years and the groundwater extraction and treatment system is expected to operate for about 15 years. During this time, EPA and NHDES will continue to monitor surface water, sediment and groundwater on the (including residential wells). Groundwater and activity and use restrictions will remain in effect. As necessary, EPA and NH DES will install and maintain point of use treatment systems on nearby residential drinking water wells until the aquifer is restored.
- The overall cleanup will be reviewed every five years to ensure that this approach remains protective of public health and the environment.

Enforcement Update

EPA will continue to focus efforts on resolving the liability of about 1,000 remaining potentially responsible parties (PRPs). To date, EPA has settled with 923 PRPs which has raised about $6.4 million for the site. EPA anticipates that final cleanup activities will be performed and / or funded by PRPs.

Please refer to the February 2004 Enforcement Update on EPA's website for more detail.

Beede Waste Oil Site

February 2004

The U.S. Environmental Protection Agency and the New Hampshire Department of Environmental Services have been working to address contamination at the Beede Waste Oil Site in Plaistow, NH. Below is an overview of the $48 million cleanup planned for the site.

The United States Environmental Protection Agency (EPA), with concurrence from the New Hampshire Department of Environmental Services, has approved a $48 million cleanup plan for the Beede Waste Oil Superfund Site. The plan, which was approved on January 9, 2004, and is referred to as a Record of Decision (ROD), builds on nearly a decade of environmental studies and follows on the heels of several interim cleanup measures already completed or underway at the site.

This fact sheet provides an overview of the cleanup plan as well as historical and ongoing activities at the site.

The cleanup plan is designed to address all known contamination remaining in soil, sediment, groundwater and surface water at the site. Although hundreds of contaminants were detected at the site, the cleanup plan focuses on the most prevalent and toxic contaminants including polychlorinated biphenyls (PCBs), lead and volatile organic compounds (VOCs). The surface soil, deep soil, sediment and groundwater will be addressed as described on the following pages.

For More Information

The Record of Decision (ROD) for the Beede Site is a 353 page document which explains the decision-making process, and other factors considered by EPA, in selecting the final cleanup plan. It includes a history and overview of all site investigations, a summary of the potential human health and ecological risks posed by the site, an explanation and comparison of the various cleanup alternatives considered, and a detailed description of the final cleanup plan.

The ROD also took into consideration an evaluation of public comments received on the proposed cleanup plan, which was released in the summer of 2002. EPA received comments on the proposed cleanup plan from community members, environmental groups and town leaders, as well as several potentially responsible parties (PRPs). EPA's written responses are contained in a document called a responsiveness summary, which is Part 3 of the ROD. The ROD did not change significantly from the proposed cleanup plan. All other documents considered in developing the ROD are contained in an Administrative Record for the site. The ROD and complete Administrative Record for the Beede Site are available for review at the following locations:

Plaistow Public Library
14 Elm Street
Plaistow, NH 03865
(603) 382-6011

EPA Records Center
1 Congress St.
Boston, MA 02114
(617) 918-1440

or on the world wide web at
www.epa.gov/region01/superfund/sites/beede

Or, Call EPA toll free at 888-372-7341 and ask for the following extensions:

Sharon Hayes Project Manager	81328
Cindy Lewis Legal	81889
Angela Bonarrigo Community Relations	81034

Shallow Soil, Soil Piles & Landfill Cleanup

The shallow soil, soil piles and on-site landfill are contaminated with various chemicals, most notably PCBs and lead.

Presently, the overall contamination levels are as follows:

- PCB concentrations of up to 700 parts per million (ppm)
- Lead concentrations of up to 20,000 ppm

The target cleanup levels are:

- 0.5 ppm for PCBs
- 400 ppm for lead

Summary of the Shallow Soil Cleanup:

The shallow soil cleanup involves the excavation and off-site treatment or disposal of all soil between 0 and 10 feet which exceeds the cleanup levels for PCBs and lead. An excavation depth of 10 feet was selected based on the potential for exposure to future residents. The removal of contaminated shallow soil will not only protect trespassers, but will allow for future residential reuse of the entire property.

The majority of PCB and lead contaminated soil is located at the ground surface (between 0 and 2 feet) over a large area of Parcel 1. A few discreet areas have contamination which extends deeper than 2 feet below the surface. Soil contamination on Parcel 2 is limited to an area immediately adjacent to and bordering Parcel 1.

Approximately 75,000 cubic yards of material will be excavated and shipped off site for treatment or disposal as part of the shallow soil cleanup. This includes approximately 16,000 cubic yards which comprise the soil piles on the site, and 11,000 cubic yards of landfill materials. Following the excavation activities, wetlands in the former landfill area will be restored.

Cleanup Highlights

- Shallow soil to be removed - 75,000 cubic yards
- Deep soil to be treated - 70,000 cubic yards
- Groundwater to be treated - 1.6 billion gallons
- Sediment to be removed - 1,000 cubic yards
- Wetlands to be restored - 1 1/2 acres

Deep Soil Cleanup

Deep soils are soils at a depth greater than 10 feet beneath the ground surface. Although soils at this depth are inaccessible, they are a continuing source of groundwater contamination. In addition to being contaminated with PCBs and lead, these deeper soils are also contaminated with volatile organic compounds (VOCs).

Presently, the overall contamination levels are as follows:

- PCB concentrations of up to 50 ppm
- Lead concentrations of up to 1,100 ppm
- Total VOC concentrations of up to 660 ppm

The target cleanup levels are:

- For individual VOCs, levels range from 0.1 to 20 ppm.
- PCBs and lead will not be removed from the deep soil.

Summary of the Deep Soil Cleanup:

Approximately 70,000 cubic yards of deep soil will be treated through the construction and operation of a soil vapor extraction (SVE) system which will remove only VOCs. Other contaminants will remain in deep soil since they are inaccessible and do not leach. The SVE system will consist of about 100 wells which will be connected to a vacuum blower via above ground piping. VOCs will be captured by activated carbon. Thermal-enhancement of the system through steam injection may be necessary to effectively remove the VOCs and achieve the cleanup goals. A pilot study will be performed to determine if steam injection is required, and if so, to what extent.

In addition, Activity and Use Restrictions (AURs) will be put in place to prevent the excavation of soils deeper than 10 feet beneath ground surface. Although residents are not exposed to soil at these depths, AURs will provide an added measure of protection.

Sediment Cleanup

Sediment at the site is contaminated with PCBs and Arsenic.

Presently, the overall contamination levels are as follows:

- PCB concentrations of up to 3.6 ppm
- Arsenic concentrations of up to 115 ppm

The target cleanup levels are:

- 0.68 ppm for PCBs
- 16.6 ppm for lead

Summary of the Sediment Cleanup:

The sediment cleanup plan involves the excavation and off-site disposal of approximately 1,000 cubic yards of sediment in a limited area of oil-saturated sediment which exceeds cleanup standards. This will be performed in conjunction with the larger shallow soil excavation. PCB and arsenic contaminated sediment from the former oil break-out area located on the southern bank of Kelley Brook, immediately adjacent to the oil interceptor trench, will be excavated and sent off-site for treatment or disposal. The area of sediment to be excavated is approximately 150 feet long, 50 feet wide, and 4 feet deep.

Once the excavation activities are completed and the contaminated sediment has been removed, the wetlands which are contiguous with the former landfill area, will be restored. In addition, a long-term surface water and sediment monitoring program will be implemented to evaluate the effectiveness of the remedy on the remaining Kelley Brook sediments.

Groundwater Cleanup

Groundwater at the site is contaminated primarily with VOCs.

Presently, the overall contamination levels are as follows:

- Total VOC concentrations of up to 7,500 parts per billion (ppb)

The target cleanup levels are:

- For individual VOCs, levels are set at drinking water standards (typcially single-digit ppb levels).

Summary of the Groundwater Cleanup:

VOC contamination is present in both the shallow and bedrock aquifers. The VOC plume extends off-site and has impacted active drinking water supply wells. The Town of Plaistow does not have a public water distribution system. Individual treatment systems have been installed to provide clean water to impacted well users.

A groundwater extraction and treatment system will be constructed on-site. A series of extraction wells will be installed and connected to this multi-phase treatment system, which will reduce VOC concentrations to drinking water standards. Approximately 1.6 billion gallons of groundwater will be treated and returned to the aquifer through a series of infiltration galleys or discharged to Kelley Brook. A pilot study will be performed to determine the exact number and location of extraction wells, the most effective pumping rate and the preferable discharge method.

In addition, a long-term groundwater monitoring program will be undertaken to evaluate the effectiveness of the remedy and to monitor water quality in area drinking water supply wells, and a State of New Hampshire Groundwater Management Zone will be established to prevent the use of groundwater within the contaminated plume area until drinking water standards are attained.

Community Impacts

- 50 trucks per day for at least 4 months.
- Potential noise and dust associated with construction and treatment activities.
- Lowering of the water table will require replacement of shallow water supply wells.